**Real-Time Alert Mechanism for Monitoring and
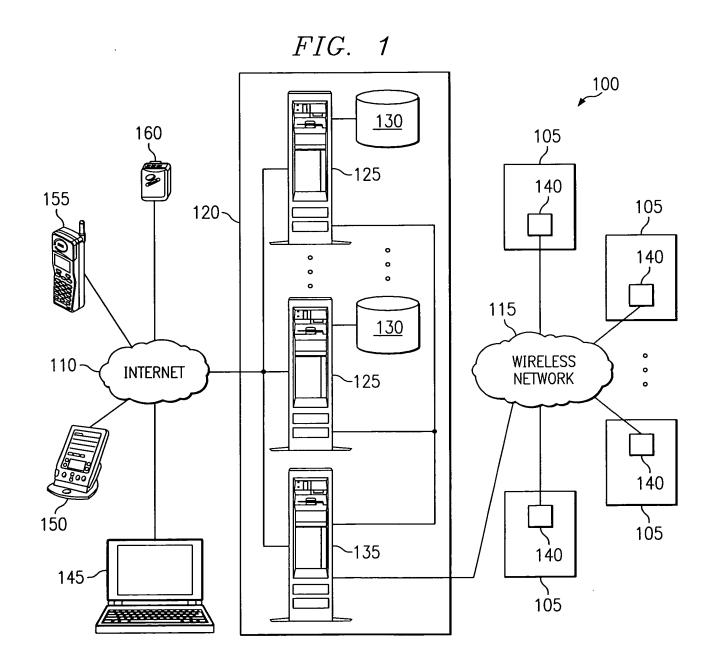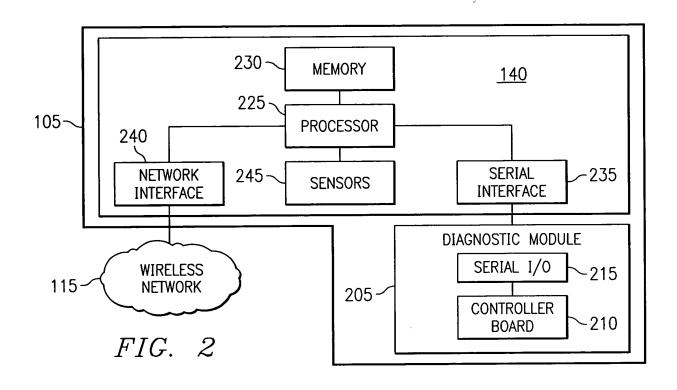Controlling Field Assets Via Wireless and Int[e]
Technologies"   064814.0146
Inventors: James Alan May, et al.
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FIG. 1

Real-Time Alert Mechanism for Monitoring a
Controlling Field Assets Via Wireless and In
Technologies"   064814.0146
Inventors: James Alan May, et al.
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230 — MEMORY   140

225 — PROCESSOR

240
NETWORK
INTERFACE   245 — SENSORS   SERIAL
                                     INTERFACE — 235

105

115 — WIRELESS
      NETWORK

DIAGNOSTIC MODULE
SERIAL I/O — 215
205
CONTROLLER
BOARD — 210

FIG. 2

305 — START

310 — CHECK
      ASSET
      STATUS?   NO ERROR CONDITIONS   315

                                                IDLE/WAIT
                                                STATE

ERROR CONDITION PRESENT

320 — DETERMINE
      IF ERROR CONDITION
      IS MANAGEABLE AT   NO   325
      REMOTE ASSET
      ?   PACKAGE
                                     ALERT

                          YES

335 — INITIATE CORRECTIVE   TRANSMIT
      SEQUENCE   ALERT
                                 TO NOC

ALERT NOT
CORRECTED   VERIFY   330
                ERROR CORRECTED
                ?   300
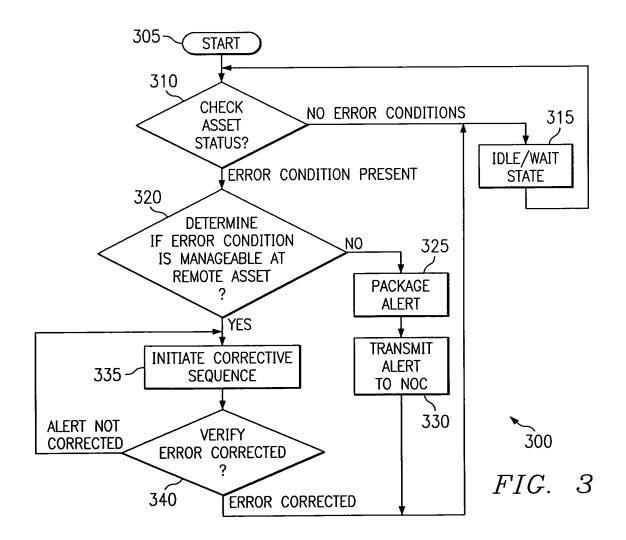
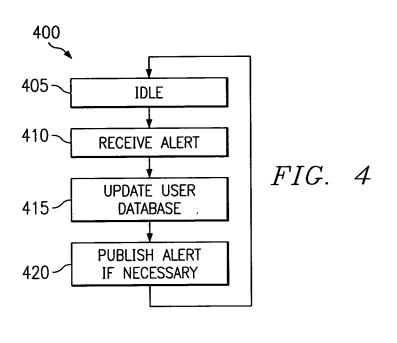340   ERROR CORRECTED

FIG. 3

Real-Time Alert Mechanism for Monitoring and
Controlling Field Assets Via Wireless and In...
Technologies"   064814.0146
Inventors: James Alan May, et al.
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400

```
         ┌──────────────────┐
  405 ── │       IDLE       │
         └──────────────────┘
                 ↓
         ┌──────────────────┐
  410 ── │  RECEIVE  ALERT  │
         └──────────────────┘
                 ↓
         ┌──────────────────┐
  415 ── │   UPDATE  USER   │
         │    DATABASE      │
         └──────────────────┘
                 ↓
         ┌──────────────────┐
  420 ── │  PUBLISH  ALERT  │
         │   IF  NECESSARY  │
         └──────────────────┘
```

FIG. 4

500

```
         ┌──────────────────────┐
         │         IDLE         │── 505
         └──────────────────────┘
                   ↓
         ┌──────────────────────┐
         │   AUTHENTICATE  USER │── 510
         └──────────────────────┘
                   ↓
         ┌──────────────────────┐
         │  DISPLAY  STATUS  OF │── 515
         │     USER  ASSETS     │
         └──────────────────────┘
                   ↓
         ┌──────────────────────┐
         │  DISPLAY  DETAILS OF │── 520
         │    USER  SELECTION   │
         └──────────────────────┘
                   ↓
         ┌──────────────────────┐
         │  INITIATE  CORRECTIVE│
         │  SEQUENCES  SELECTED │── 525
         │       BY  USER       │
         └──────────────────────┘
                   ↓
              ◇ VERIFY              ERROR  NOT
              CORRECTIVE            CORRECTED
              SUCCESS? ◇
              530
                   ↓ ERROR  CORRECTED
         ┌──────────────────────┐
         │  REMOVE  ALERT  FROM │
         │    DISPLAY  AND      │── 535
         │  UPDATE  DATABASE    │
         └──────────────────────┘
```

FIG. 5

Real-Time Alert Mechanism for Monitoring and Controlling Field Assets Via Wireless and Int Technologies"   064814.0146
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FIG. 6A

600

FOSOXO' 256360

ISOCHRON DATA CORPORATION – MICROSOFT INTERNET EXPLORER

Address http://www.polarcast.isochron.com:7061/XCauthentication.jsp

PolarCast   605

Packaged Ice
Reporting
  Current Alerts
  Daily Net Activity
  Alert History
Ice Factories
Deployment
User Admin
Help

Logout

610

Ice Factory: Edit Details

Location: Acme Store 12
Address: 100 Main Street
           Anywhere, USA 10010

RTC Clock: 2000-05-29 07:02:02.0
Cycle
Count: 123456

LCD k10

615

Control #: SXSW_Aus

SerialNum: 012345678
Make: Armstrong
Model: ITLY-0694
Master-Slave Revision: 922.2386

620

Heat Seal Time: 1.2 sec

Left / Right Bag Count: 21   70

Merchandiser Temp: =none=° F.

625

TO FIG. 6B

Real-Time Alert Mechanism for Monitoring and
Controlling Field Assets Via Wireless and Inter●
Technologies"   064814.0146
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FIG. 6B

FROM FIG. 6A

Status Time: 5/29/00 7:02:02 AM CDT

L R Sensor			L R driver		
•	•	Sensor A	•	•	Driver 1
•	•	Sensor B	•	•	Driver 2
•		Sensor C	•		Driver 3
•	•	Sensor D	•	•	Driver 4
•	•	Sensor E	•	•	Driver 5
•	•	Sensor F	•	•	Driver 6
•	•	Sensor G	•		Driver 7
•	•	Sensor H	•	•	Driver 8
•	•	Sensor I	•	•	Driver 9
•		Sensor J	•	•	Driver 10
•		Sensor L	•	•	Driver 11
•		Sensor M	•		Driver 12

630

635

640

Mode Indicator

●	
Man	Stdby	Auto

Backlit LED

Power On

Load Bags

Merchandiser Full

Pickup Fault

Backup

Cassette Open

Hopper Full

Set Heater Time

645

Remote Ice Factory
Controls

control a
control b
control d
control e
control f
control g
control h
control i
control j
control k
control l
control m
control n
control o
control p
control q
control r
control s
control t
control u

e Internet zone